



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,993	04/21/2004	Harold Alexis Huggins	HUGGINS 7	5503
47396	7590	10/18/2007	EXAMINER	
HITT GAINES, PC			LIE, ANGELA M	
LSI Corporation			ART UNIT	PAPER NUMBER
PO BOX 832570			2163	
RICHARDSON, TX 75083				

NOTIFICATION DATE	DELIVERY MODE
10/18/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket@hittgaines.com

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/828,993	HUGGINS, HAROLD ALEXIS
	Examiner Angela M. Lie	Art Unit 2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 06 August 2007.  
 2a) This action is FINAL. 2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 29 and 34-40 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 29 and 34-40 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 21 April 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

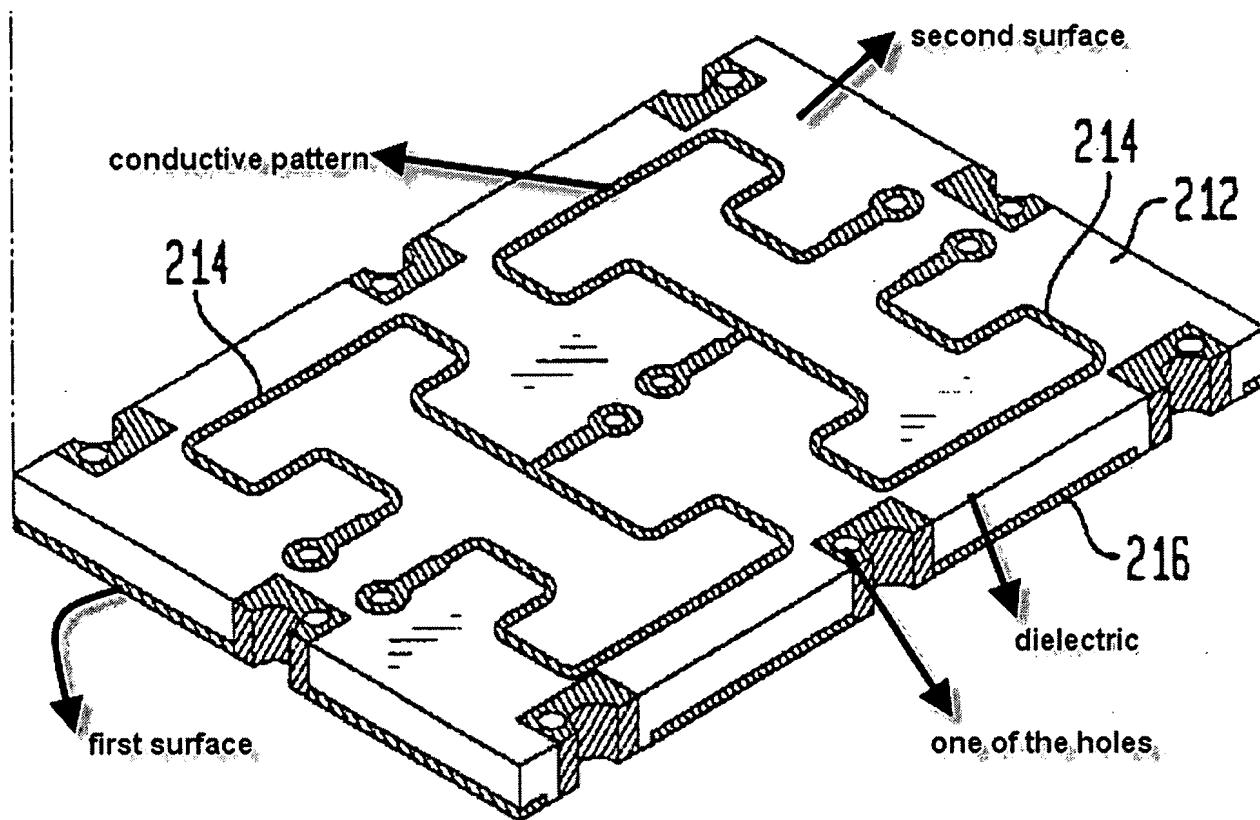
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. **Claims 29, 35-37 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Sridharan et al (US Patent No. 6525623).**

**As to claim 29,** Sridharan discloses a radio frequency (RF) component comprising: a dielectric layer (Figure 9, element 212) having opposing first (Figure 9, bottom side) and second major surface (as indicated in the figure below) being free from a semiconductor substrate, the dielectric layer (Figure 9, element 212) having a plurality of openings (as indicated in the figure below) between the first and second opposing major surfaces; and a patterned conductive (Figure 9, as indicated below) layer on the second major surface of the dielectric layer, wherein the plurality of openings are

arranged in a predetermined pattern along laterally opposing sides of the patterned conductive layer (as shown in figure below).



As to claim 35, Sridharan discloses the RF component wherein the plurality of openings are laterally adjacent portions of the patterned conductive layer with no openings extending through the patterned conductive layer (as shown in the figure above the holes adjacent to the edges (as indicated in the drawings above) are not extending through the patterned conductive layer.

As to claim 36, Sridharan discloses the RF component wherein each of the plurality of openings is cylindrically shaped (as shown in figure above).

**As to claim 37**, Srindharan discloses the RF component wherein there is substantially uniform spacing between the adjacent openings on each of the opposing sides of the patterned conductive layer (as shown in the figure above the spacing between holes is uniform).

**As to claim 40**, Srindharan discloses the RF component wherein the patterned conductive layer does not intervene between the adjacent openings along each of the laterally opposing sides.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sridharan et al (US Patent No. 6525623) in the view of Fjelstad (US Patent**

**4482445)** Srindharan teaches all the limitations disclosed in claim 29, however he does not explicitly teach each opening having respective rounded over edges adjacent the first and the second surfaces. Fjelstad teaches dielectric laminate wherein comprising a plurality of holes, wherein the edges are smoothly rounded (column 3, lines 54-61). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to have rounded hole edges as taught by Fjelstad, on both side of

the dielectric taught by Srinsharan as to diffuse stress normally concentrated at the hole edges and minimizing "corner crack" (column 3, lines 54-60).

6. **Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sridharan et al (US Patent No. 6525623) in the view of Jolly et al (US Patent No. 5269880).** Sridharan teaches all the limitations disclosed in claims 29 and 37, however he does not explicitly teach that the diameter of openings is in the range of about 0.5 to 20 um and that the spacing between the adjacent openings on each of the opposing sides ranges from about 20-200um. Jolly teaches openings having a diameter in the range of 1.5 to 2 um (lines 41 and 42). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to have holes with diameter of 2 um as taught by Jolly and have the spacing between the corresponding holes in the range of 20 -200 um, in Sridharan device, because it is an obvious matter of design choice to change the spacing length to about 20 to 200 microns and modify hole diameter to a range of about 0.5 -20 um, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955). Furthermore the other important thing to note is the fact that the spacing between the openings as well as their diameter do not change the functionality of the device.

***Response to Arguments***

7. Applicant's arguments filed August 6, 2007 have been fully considered but they are not persuasive.
8. With respect to the applicant's assertion on page 4, third paragraph alleging that "Sridharan does not teach a dielectric layer having opposing first and second major, the first surface being free from a semiconductor substrate", the examiner disagrees. As indicated in the rejection above, the figure shown above clearly illustrates dielectric layer having two surfaces with through holes, wherein first surface is free from a semiconductor.
9. Furthermore, in the next argument on page 5, second paragraph, the applicant asserts that Sridharan teaches multiple dielectric layers, and this in fact is not consistent with the claimed limitations. The examiner would like to note that the claim preamble is ended with the word "comprising" which in fact is open ended and therefore the additional elements might be present in addition to claimed limitations. Moreover, claims rejected under 35 U.S.C 103(a) do not involve structural changes made to the existing layers. Instead they rather address the modification made to the existing holes. Consequently, the examiner maintains that it would be obvious to modify Sridharan's dielectric apparatus for the purposes disclosed in the rejection above and therefore not repeated.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
11. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Inquiry***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. Lie whose telephone number is 571-272-8445. The examiner can normally be reached on M-F.
13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**Angela M Lie**



**WILSON LEE**  
PRIMARY EXAMINER